

REMARKS

Claims 9-16 are currently pending in the subject application. Claims 10, 14 and 15 have been amended to correct for minor informalities. Claims 10 and 15 have also been amended to be presented in independent form. Claims 9, 13 and 14 have been amended to more clearly recite the present invention. The specification has been amended to correct a minor error. No new matter has been added and no new issues have been introduced. Claims 9, 10 and 13-15 are independent.

Applicants appreciate the Examiner's acknowledgement that the drawings filed on January 24, 2005, are accepted.

Claims 9-16 are presented to the Examiner for further prosecution on the merits.

A. Introduction

In the outstanding Office action dated April 18, 2005, the Examiner objected to claims 10, 14 and 15, rejected claim 13 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,764,052 to Renger ("the Renger reference"), rejected claims 9 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the Applicants' Admitted Prior Art ("the AAPA") in view of the Renger reference, and indicated claims 10-12 and 15-16 contained allowable subject matter.

B. Asserted Objections

In the outstanding Office action, the Examiner objected to claims 10, 14 and 15 due to noted informalities. Claim 10 has been amended to clarify that it is the AND gate outputting the output signal. Claim 14 has been amended as suggested by the Examiner. Claim 15 has been amended to eliminate unnecessary structure from the method claim, which was believed to be the point of confusion noted by the Examiner.

It is respectfully submitted that these amendments overcome the objections, and it is respectfully requested that these objections be withdrawn.

C. Asserted Anticipation Rejection

In the outstanding Office Action, the Examiner rejected claim 13 under 35 U.S.C. § 102(b) as being anticipated by the Renger reference. This rejection is respectfully traversed for at least the reasons set forth below.

Claim 13 recites, in part:

a pulse controller for generating a pulse to block current from flowing into a driving coil of the fluxgate before an end of a sensing cycle when it is determined that conversion of an analog signal from the fluxgate to a digital signal is completed by an A/D converter and the A/D converter outputs the digital signal to the pulse controller.

In rejecting claim 13 over the Renger reference, the Examiner characterized the Renger reference as teaching a pulse controller 32, a driving coil 40 of a fluxgate and an A/D converter 48. The Examiner further asserted that the pulse controller generates a pulse to block current from flowing into a driving coil 40 when a digital signal is output from the A/D converter.

First, it is respectfully submitted that, while the Renger reference may disclose a magnetic field sensor, it does not disclose a fluxgate. The coil 40 is a sensing coil, and there is no drive coil in the Renger reference, as is evident from the operation set forth in column 5, line 66 to column 6, line 36 of the Renger reference. After a predetermined time period T2, rather than an event, the microprocessor 32 will perform a read operation to read the output of the A/D converter 48. *The Renger reference, col. 7, lines 12-15.*

Therefore, the Renger reference fails to disclose or suggest the present invention as recited in claim 13. Therefore, it is respectfully requested that this rejection be withdrawn.

D. Asserted Obviousness Rejection

In the outstanding Office Action, the Examiner rejected claims 9 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the the AAPA in view of the Renger reference. This rejection is respectfully traversed for at least the reasons set forth below.

Claims 9 and 14 recite, in part, stopping the output of a pulse from a pulse generator when an A/D converter outputs a digital signal to a pulse controller. As correctly noted by the Examiner, the AAPA does not disclose the pulse controller as recited in claims 9 and 14. The Examiner then relies on the Renger reference as teaching the pulse controller. However, as noted above, any pulse control in the Renger reference does not stop outputting a control signal in accordance with the output of the A/D converter. Instead, the signal output by the microprocessor merely switches the state of the transistor 34. *The Renger reference, col. 6, lines 1-9*. Thus, there is no control signal *per se* being output to be stopped, especially not before an end of a sensing cycle, as now recited in claims 9 and 14. Any control signal in the Renger reference appears to be a time lapse trigger rather than an event trigger, as now more clearly recited in claims 9 and 14.

Therefore, it is respectfully submitted that neither the AAPA nor the Renger reference, either alone or in combination, disclose or suggest the present invention as recited in claims 9 and 14. Therefore, it is respectfully requested that this rejection be withdrawn.

E. Allowable Subject Matter

The indication that claims 10-12 and 15-16 contain allowable subject matter is gratefully acknowledged. However, it is respectfully submitted that all of the claims are in condition for allowance, and an early indication of the same is earnestly solicited.

G. Conclusion

Since the cited prior art references, taken alone or in combination, neither anticipate nor render obvious the subject invention as presently claimed, applicants respectfully submit that claims 9-16 are now in condition for allowance, and a notice to that effect is respectfully requested.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.